

REMARKS

In the Office Action, claims 1, 2, 4 and 5 have been rejected under 35 U.S.C. § 112, second paragraph, and certain claims have been rejected under 35 U.S.C. § 103.

Applicant has cancelled claims 1 to 4, amended claim 5 and has added new claims 6 to 9. In view of the following remarks, Applicant believes that claims 5 to 9 are in condition for allowance. Reconsideration and withdrawal of the rejection, in so far as it may apply to claims 5 to 9, are respectfully requested.

The present application discloses an integrated circuit card comprising a card body 10 of insulating material having an antenna embedded therein, and an integrated circuit module 12 received in a cavity of the card body 10. The antenna 1 comprises a conductive track 2 and has ends 3 constituted by conductive layers forming connection terminals 4. The integrated circuit module 12 is provided with connection areas 13 connected to the connection terminals 4 of the antenna 1. At least one of the (i) connection terminals 4 and (ii) the conductive track 2 of antenna 1 has a plurality of perforations where the material surrounding the antenna 1 extends through the perforations in the connection terminals 4. More specifically, when antenna 1 and the card body 10 are laminated, card body material on either side of connection terminals 4 flows through the perforations in connection terminals 4 and/or conductive track 2 and welds to itself through the perforations. Cohesion of card body 10 in the vicinity of connection terminals 4 and/or conductive track 2 of antenna 1 is then high and the strength of the card is improved.

The Examiner has rejected claims 1, 2, 4 and 5 under 35 U.S.C. § 112, second paragraph, because use of the alternative language "and/or" renders them indefinite. Claims 1, 2

4 have been cancelled without prejudice so the rejections with respect to those claims are now moot. Applicant has amended claim 5 to remove the alternative language and now respectfully requests the withdrawal of this rejection with respect thereto.

Turning now to the substantive rejections of the Office Action, the Examiner has rejected claims 1 to 4 under 35 U.S.C. § 103 as being unpatentable over German Patent No. DE 196 40 260 (Fischbach) and has rejected claim 5 under 35 U.S.C. § 103 as being unpatentable over Fischbach in view of U.S. Patent No. 5,598,032 (Fidalgo). However, the actual status of claims 3 and 4 is ambiguous because claim 3 is indicated on form PTO-326 as being only objected to, and item no. 10 of the Office Action states that claim 4 is objected to "but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." In any case, Applicant has cancelled claims 1 to 4 so the rejections with respect to those claims are now moot. Claim 5 and claims 6 to 9 are allowable in light of the following remarks.

Fischbach teaches a contactless chip card having a lead frame 1 serving as an electrical connection between chip module 2 and induction coil 3. To facilitate connection between these components 2, 3, apertures 5 are created in coil pads 7 for receiving contacts 4 of lead frame 1. (See Fischbach, Figure 1) The contacts 4 passing through the aperture 5 are then soldered at the upper surface of coil pad 7. (See Fischbach, Figure 3)

Fidalgo teaches a hybrid chip card 1 capable of both contact and contact-free operation. The card 1 has antenna contacts 15 situated within a cavity 17 for receipt of an electronic module 7 at its electric contact zone 12. Different designs of cavity 17 are provided for receiving modules 7 of different shapes.

With respect to the rejection of claim 5, neither Fischbach nor Fidalgo teaches that the insulating material surrounding the antenna 1 extends through the perforations in the connection terminals 4 as specifically recited in the claim. Although the Examiner argues that Fischbach teaches this limitation, Applicant respectfully disagrees. Fischbach teaches apertures 5 that extend completely through both the coil pad 7 and the substrate film 8. (See Fischbach, Figure 2) Thus, Fischbach does **not** teach or suggest any insulating material extending through perforations in connection terminals as specifically recited in claim 5.

Fidalgo teaches connection terminals 15 but does **not** disclose any perforations within these terminals 15, much less insulating material surrounding the antenna 5 that extends through such perforations. (See, Fidalgo, Figure 2)

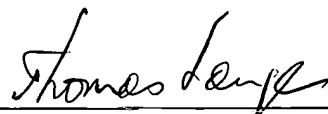
Since neither Fischbach nor Fidalgo teaches or suggests that insulating material surrounding the antenna extends through perforations in the connection terminals as recited in independent claim 5, any combination of these references must likewise fail to teach or suggest the claimed limitation. Thus, Applicant respectfully submits that claim 5 is patentably distinct over the prior art and its allowance is respectfully solicited.

New independent claim 6 is directed to an integrated circuit card comprising a conductive track forming an antenna. The conductive track includes perforations, and the perforations receive insulating material therein. The arguments for the patentability of claim 6 are similar to those provided above with respect to claim 5, and claim 6 is thus patentable for at least the same reasons. Accordingly, Applicant respectfully submits that claim 6 and claims 7 to 9, which respectfully depend from claim 6, are also patentably distinct over the prior art, and their allowance is solicited.

It is believed that no additional fees or charges are currently due. Nevertheless, any fees or charges required at this time in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CLAIM CHANGES

Claim 5 has been amended as follows:

5. (Amended) An integrated circuit card comprising a card body (10) of insulating material in which there is embedded an antenna (1) comprising a conductive track (2) and having ends (3) constituted by conductive layers forming connection terminals (4), and an integrated circuit module (12) received in a cavity (11) of the card body (10) and provided with internal connection areas (13) connected to the connection terminals (4) of the antenna (1), wherein at least one [each] of the (i) connection terminals (4) and (ii) [and/or] the conductive track (2) of the antenna (1) has a plurality of perforations, the material surrounding the antenna extending through the perforations (5) in the connection terminals (4).